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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,916

07/21/2005

Massimo Bergamasco

05086

8712

23338 7590 07/05/2007  
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EXAMINER

RAEVIS, ROBERT R

ART UNIT

PAPER NUMBER

2856

MAIL DATE

DELIVERY MODE

07/05/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/540,916	BERGAMASCO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Robert R. Raevis	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) 20-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

Claims 14,18,19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hodac.

As to claim 14, Hodac teach a method for measuring relative rotation ("angular deflection", first line of Para 33) of a first object 7 relative to a second object 7 comprising: arranging a flexible (note "deformed condition" on Para 20) elongated element 12 between the objects, the element 12 having a neutral axis and a parallel line defined by the lower surface of the beam 12 (as illustrated in Figure 3); measuring a "variation in distance between the adjacent elements" (Para 33) 1 which provides for a measurement of a variation of *at least a portion* of the line that extends from object 7 to object (as illustrated in Figure 1), the line spaced from the neutral axis; and calculating relative rotation responsive to the length variation and the distance, the rotation being proportional to the length variation.

As to claim 18, the elements 1 are optical sensors.

As to claim 19, bending is carried out due to hinge 2, the resulting is being in the single plane.

Claims 14,15,19 are rejected under 35 U.S.C. 102(b) as being anticipated by Challis.

As to claim 14,15,Challis teaches (sensor embodiment of Figure 4, for use with the system of Figure 1) a method for measuring relative rotation of a first object (on one side of elbow, even just the tape 88) relative to a second object (on the other side of

elbow, even just the tape 88), including: arranging a flexible element 4 between the objects, the element having a neutral axis, and defining a line (channel that receives fiber 28) spaced from the axis by a distance; and measuring variation in length of the fiber (with sensor 36), which variation is indicative of a variation of the length of the channel that retains the fiber 28 (as the fiber's length does not change); and calculating angular displacement from the longitudinal movement of the fiber 28 as the angular displacement is "proportional" (col. 3, lines 45-56) to the longitudinal movement.

As to claim 19, the elbow causes motion in a single plane.

Claims 16,17,18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Challis.

As to claim 16, the fiber is suggestive of a small cable to provide for strength.

As to claim 17, note that the end of cable 28 that's in instrument 72 moves.

As to claim 18, Challis teaches (col. 1, lines 23-35) that recording is desirable for "later examination".

Comments:

Claim 14 is allowable over Slocum, due to the combination of "proportional" (line 3 from last) with remaining claim limitations. It is the "responsive to said length variation and said distance" (italics added, lines 4-5 from last) which allows for the "proportional" relation, and which distance is maintained as indicated by the last quoted passage (and as argued on the 4<sup>th</sup> paragraph from bottom of p.6 of **REMARKS**).

Claim 14 is allowable over Danisch, due to the combination of “measuring a variation in length of said line” with remaining limitations. Danish employs a “bending” (col. 11, line 66) sensor, and senses bending, but does not actually measure a variation in length, and use a value thereof in calculation a rotation as claimed. Note was made that the written specification does measure a variation, and employ such variation to calculate a rotation (on p. 10, lines 1-8).

This is a RCE of applicant's earlier Application No. 10/540,916. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert R. Raevis whose telephone number is 571-272-2204. The examiner can normally be reached on Monday to Friday from 5:30am to 3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Rowe*  
*RAEvis*